General Fertility Program for Plasticulture Strawberries in Eastern North Carolina

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These recommendations assume that nitrogen (N) has been applied preplant at 60 lb/acre and that phosphate and potash have been applied based on NCDA&CS soil-test recommendations. Fertigation treatments usually begin in late winter/early spring (around March 1st) about 45 days from the first planned date of harvest.

Getting Started

Begin by applying N at a rate of 5–7 lb/acre/week. Where soils are very sandy, the high rate (7 lb) may be more appropriate; on heavy, clay soils, try the lower rate (5 lb). Apply N all at once in a single application (5–7 lb/acre/week) or incrementally (¾–1 lb/acre/day). After fertigation, clean emitters by running water through them for 15–20 min. Continue this program until tissue testing indicates a reason to change.

Nitrogen-to-Potassium (N:K) Ratio

Regional agronomists have found from experience that a 1:2 ratio of N to K usually produces sweeter, firmer berries. One way is to use potassium nitrate (13-0-44). However, other fertilizer sources can be just as effective as long as they are combined so the 1:2 ratio is maintained.

Later in the season, a routine monitoring program of tissue sampling may indicate the need for calcium or sulfur. If so, switch to 15.5-0-0 (calcium nitrate) with 0-0-50 (potassium sulfate, 18% S) to keep the 1:2 N-to-K ratio in balance. This combination will supply sufficient calcium and sulfur. However, if 13-0-44 is used and a recommendation for sulfur is made, add Epsom salt (13% S) at a rate of 10 lb/acre to supply sulfur.

Micronutrient fertilizers should only be applied if a tissue sample taken during the growing season indicates a specific need.

Nutrient Monitoring with Plant Tissue Analysis

Tissue testing on a regular basis will indicate any plant nutrient imbalances before symptoms begin to show. To use this monitoring tool, begin collecting samples after fertilization is initiated and continue at two-week intervals throughout the growing season. Normally, sampling takes place over a 12- to 16-week period.

To obtain an accurate measure of nutrient status, submit a sufficient amount of plant tissue. When collecting a sample from a field of strawberries, randomly select 20 to 25 most recently mature leaves (3 leaflets per leaf) and the associated petioles. Immediately detach petioles from leaflets. Place leaf blades in a paper bag and the associated petioles in an envelope inside that bag. Send the tissue, the $7 per-sample fee and a completed *Plant Sample Information* form (www.ncagr.gov/agronomi/pdffiles/isplant.pdf) to the NCDA&CS Agronomic Division. Results will be posted online approximately three working days after samples are received.

Watering

During early growth, a strawberry crop needs apply approximately 1 inch of water per acre per week. This rate translates to **3,879 gallons per day** *or* **27,154 gallons per week per acre.** Calculate the amount of water your system delivers and the length of time needed to put out 1 inch per acre per week. First, based on row spacing, determine the number of feet of tubing per acre (Table 1). Most strawberry fields typically have 5-ft row spacing.